Hampshire County Retirement System

Actuarial Valuation and Review as of January 1, 2007

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September 19, 2007

Retirement Board Hampshire County Retirement System 99 Industrial Drive Northampton, MA 01060

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of January 1, 2007. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2008 and later years and analyzes the preceding year's experience.

The census information and financial information on which our calculations were based was prepared by the staff of the Hampshire County Retirement System. That assistance is gratefully acknowledged. The actuarial calculations were completed under my supervision.

This actuarial valuation has been completed in accordance with generally accepted actuarial principles and practices. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and the expectations for the Plan.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

THE SEGAL COMPANY

By:

Kathleen A. Riley, FSA, MAAA, EA
Senior Vice President and Actuary

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Purpose

This report has been prepared by The Segal Company to present a valuation of the Hampshire County Retirement System as of January 1, 2007. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- > The benefit provisions of M.G.L. Chapter 32;
- > The characteristics of covered active participants, inactive participants, and retired participants and beneficiaries as of January 1, 2007;
- > The assets of the Plan as of December 31, 2006;
- > Economic assumptions regarding future salary increases and investment earnings; and
- > Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

Significant Issues in Valuation Year

The following key findings were the result of this actuarial valuation:

- > The actuarial valuation report as of January 1, 2007 is based on financial information as of that date. Changes in the value of assets subsequent to that date are not reflected.
- > During the plan year ended 2006, the market value rate of return was 15.00%. Because the actuarial value of assets gradually recognizes market value fluctuations over a five-year period, the actuarial rate of return for the plan year ended 2006 was 8.70%. The actuarial value of assets as of December 31, 2006 was \$163.5 million, or 97.5% of the market value of assets of \$167.7 million.
- > The investment return assumption was increased from 8.00% to 8.25% based on the revised asset allocation adopted by the Board.
- > With the January 1, 2007 actuarial valuation, the System performed an extensive review of certain data records. As a result, the following changes were made to the data received and the valuation process:
 - > Participants with multiple records were reviewed and service and/or salary were adjusted as necessary. The revised service information was used to project benefits and determine entry age.

- > Part-time employees were reviewed and it was determined that service provided in the data was reasonable for the majority of the employees. Salary reflected part-time status.
- > For call firefighters, reserve police officers and part-time EMT workers who worked in 2006 and who have concurrent service with a member unit, the System provided the numbers of years of service that will be used in the determination of the retirement allowance.
- > Call firefighters, reserve police officers and part-time EMT workers who worked in 2006 and do not have concurrent service with a member unit were included with inactive participants entitled to a return of their employee contributions.
- > For all the remaining records, service provided in the data was used to project benefits and determine entry age.
- The unfunded liability was expected to increase from \$104.9 million as of January 1, 2006 to \$106.9 million as of January 1, 2007. As detailed in Subsection C of Section 2 of the report, net experience was slightly more favorable than expected and the change in the investment return assumption and the revisions to the data further lowered the unfunded liability to \$94.4 million as of January 1, 2007.
- > Because the fiscal 2008 appropriation has been set to the previously budgeted amount of \$11,998,834 based on the January 1, 2006 actuarial valuation, the results of this valuation will first be reflected in the fiscal 2009 appropriation of \$12,385,744. The current funding schedule amortizes the remaining unfunded liability by June 30, 2025 with amortization payments that increase 3.50% per year. The prior funding schedule amortized the remaining unfunded liability by June 30, 2028 with amortization payments that increase 4.50% per year. The amortization payments for the ERIs are unchanged (level payments ending in 2008 for the 1992 ERI and in 2028 for the 2002 and 2003 ERIs).
- > The funded ratio has increased from 57.04% to 65.04% using the market value of assets and from 58.83% to 63.40% using the actuarial value of assets.
- > The recommended contributions shown in this report assume the appropriation is paid in two equal installments on July 1, and December 31. The Board may want to consider allowing member units the option of making a single, lower payment on July 1.

SECTION 1: Valuation Summary for the Hampshire County Retirement System

Summary of Key Valuation Results

| | 2007 | 2006 |
|--|--------------|--------------|
| Contributions for fiscal year beginning July 1: | | |
| Recommended for fiscal 2009 and 2008 | \$12,385,744 | \$11,998,834 |
| Funding elements for plan year beginning January 1: | | |
| Normal cost, including administrative expenses | \$9,653,740 | \$9,750,634 |
| Market value of assets | 167,718,336 | 145,341,625 |
| Actuarial value of assets | 163,497,369 | 149,892,383 |
| Actuarial accrued liability | 257,885,435 | 254,808,289 |
| Unfunded actuarial accrued liability | 94,388,066 | 104,915,906 |
| GASB 25/27 for plan year beginning January 1: | | |
| Annual required contributions | \$11,998,834 | \$10,800,742 |
| Actual contributions | | 10,800,742 |
| Percentage contributed | | 100.00% |
| Funded ratio based on actuarial value of assets | 63.40% | 58.83% |
| Funded ratio based on market value of assets | 65.04% | 57.04% |
| Demographic data for plan year beginning January 1: | | |
| Number of retired participants and beneficiaries | 996 | 989 |
| Number of inactive participants entitled to a return of their employee contribution | 1,017 | 612 |
| Number of inactive participants with a vested right to a deferred or immediate benefit | 42 | 81 |
| Total number of inactive participants | 1,059 | 693 |
| Number of active participants | 2,413 | 2,733 |
| Total payroll | \$64,759,080 | \$62,944,586 |
| Average payroll | 26,838 | 23,031 |

Note: With the January 1, 2007 actuarial valuation, 286 call firefighters, reserve police officers and part-time EMTs who worked in 2006 are included with inactive participants entitled to a return of their employee contributions.

A. PARTICIPANT DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered participants, including active participants, inactive participants, retired participants and beneficiaries. This section presents a summary of significant statistical data on these participant groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits A and B.

A historical perspective of how the participant population has changed over the past seven valuations can be seen in this chart.

CHART 1
Participant Population: 1995 – 2006

| Year Ended December 31 | Active Participants | Inactive Participants | Retired Participants and Beneficiaries |
|---------------------------|------------------------|--------------------------|---|
| 1995 | 2,600 | 600 | 812 |
| 1997 | 2,678 | 608 | 847 |
| 1999 | 2,720 | 587 | 879 |
| 2001 | 2,707 | 589 | 922 |
| 2003 | 2,648 | 677 | 1,002 |
| 2005 | 2,733 | 693 | 989 |
| 2006 | 2,413 | 1,059* | 996 |

^{* 286} call firefighters, reserve police officers and part-time EMTs who worked in 2006 are included with the inactive participants.

Active Participants

Plan costs are affected by the age, years of service and payroll of active participants. In this year's valuation, there were 2,413 active participants with an average age of 46.4, average years of service of 9.8 years and average payroll of \$26,838. The 2,733 active participants in the prior valuation had an average age of 45.0, average service of 9.9 years and average payroll of \$23,031.

The increase in average payroll is primarily due to the removal of call firefighters, reserve police officers and part-time EMTs from the active counts.

Among the active participants, there were 7 participants with unknown age. The actuarial calculations were adjusted for the missing information by assuming that it was the same as information provided for other active participants with similar known characteristics.

Inactive Participants

In this year's valuation, there were 42 participants with a vested right to a deferred or immediate vested benefit and 1,017 participants entitled to a return of their employee contributions. 286 call firefighters, reserve police officers and part-time EMTs who worked in 2006 are included with the inactive participants.

These graphs show a distribution of active participants by age and by years of service.

CHART 2
Distribution of Active Participants by Age as of December 31, 2006

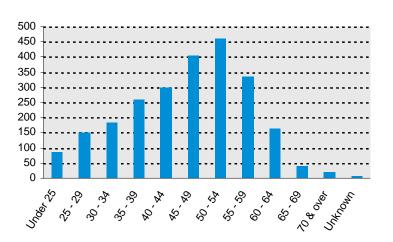
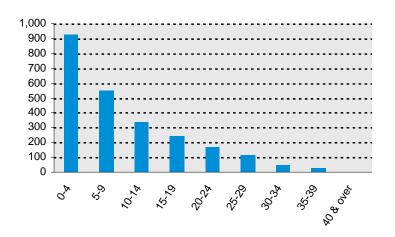


CHART 3
Distribution of Active Participants by Years of Service as of December 31, 2006



Retired Participants and Beneficiaries

As of December 31, 2006, 862 retired participants and 134 beneficiaries were receiving total monthly benefits of \$1,128,615 excluding COLAs reimbursed by the Commonwealth. For comparison, in the previous valuation, there were 853 retired participants and 136 beneficiaries receiving monthly benefits of \$1,073,575 excluding COLAs reimbursed by the Commonwealth.

These graphs show a distribution of the current retired participants and beneficiaries based on their monthly amount and age, by type of pension.

BeneficiariesAccidental DisbilityOrdinary DisabilitySuperannuation

CHART 4
Distribution of Retired Participants and Beneficiaries by Type and by Monthly Amount as of December 31, 2006

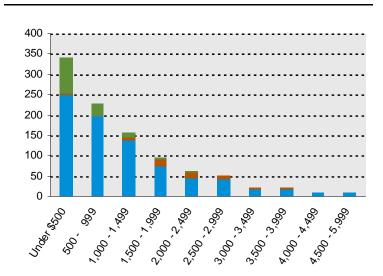
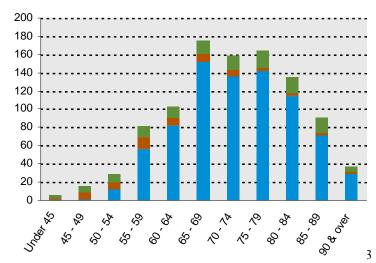


CHART 5 Distribution of Retired Participants and Beneficiaries by Type and by Age as of December 31, 2006

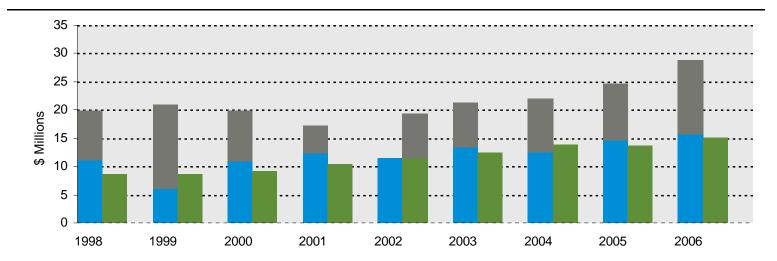


B. FINANCIAL INFORMATION

Retirement plan funding anticipates that, over the long term, both net contributions (less administrative expenses) and net investment earnings (less investment fees) will be needed to cover benefit payments. Retirement plan assets change as a result of the net impact of these income and expense components. Additional financial information, including a summary of these transactions for the valuation year, is presented in Section 3, Exhibits C and D.

The chart depicts the components of changes in the actuarial value of assets over the last nine years. 2001 includes an adjustment to 110% of market value.

CHART 6
Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended December 31, 1998 – 2006



Net Investment IncomeBenefits paidNet contributions

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable.

The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

The chart shows the determination of the actuarial value of assets as of the valuation date.

CHART 7

Determination of Actuarial Value of Assets for Year Ended December 31, 2006

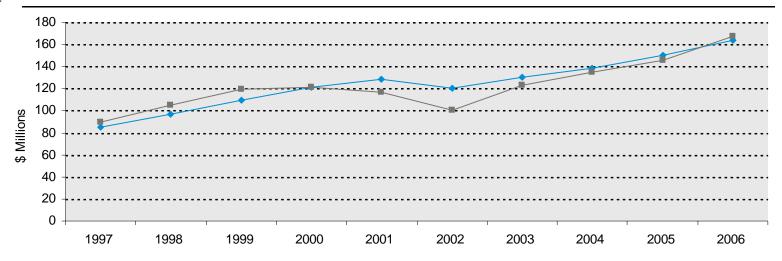
| 1. Actuarial v | alue of assets at the beginning of the year | \$149,892,383 |
|--------------------------------|---|----------------------|
| 2. Contributio | ns less benefit payments and expenses | 536,878 |
| 3. Average ac | tuarial value: (1) + [50% of (2)] | 150,160,822 |
| 4. Expected in | vestment income: .08 x (3) | 12,012,866 |
| 5. Preliminary | actuarial value of assets at the end of the year: $(1) + (2) + (4)$ | 162,442,127 |
| 6. Market valu | ne of assets at the end of the year | 167,718,336 |
| 7. Adjustment | toward market value: 20% of [(6) - (5)] | 1,055,242 |
| 8. Adjustment | to be within 20% corridor | 0 |
| Final actuar | ial value of assets: $(5) + (7) + (8)$ | <u>\$163,497,369</u> |
| 10. Actuarial v | alue as a percentage of market value: $(9) \div (6)$ | 97.5% |

Both the actuarial value and market value of assets are representations of the Hampshire County Retirement System's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. The actuarial asset value is significant because the Hampshire County Retirement System's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

This chart shows the change in the actuarial value of assets versus the market value over the past ten years.

CHART 8

Actuarial Value of Assets vs. Market Value of Assets as of December 31, 1997 – 2006



Actuarial Value

Market Value

C. ACTUARIAL EXPERIENCE

To calculate the required contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term

development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The net experience gain for the year ended December 31, 2006 is \$359,805. When compared to the actuarial accrued liability of \$257,885,435 as of December 31, 2006, the net experience variation was not significant. A discussion of the major components of the actuarial experience is on the following pages.

This chart provides a summary of the actuarial experience during the past year.

CHART 9 Actuarial Experience for Year Ended December 31, 2006

| 1. | Net gain from investments* | \$1,055,242 |
|----|--|-----------------|
| 2. | Net gain from administrative expenses | 102,141 |
| 3. | Net loss from other experience** | <u>-797,578</u> |
| 4. | Net experience gain: $(1) + (2) + (3)$ | \$359,805 |

^{*} Details in Chart 10

^{**} Details in Chart 13

Investment Rate of Return

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the Hampshire County Retirement System's investment policy. For valuation purposes, the assumed rate of return on the actuarial value of assets is was 8.00% for the 2006 plan year. The actual rate of return on an actuarial basis for the 2006 plan year was 8.70%.

Since the actual return for the year was greater than the assumed return, the Hampshire County Retirement System experienced an actuarial gain during the year ended December 31, 2006 with regard to its investments.

This chart shows the gain/(loss) due to investment experience.

CHART 10

Actuarial Value Investment Experience for Year Ended December 31, 2006

| 1. Actual return | \$13,068,108 |
|--|--------------------|
| 2. Average value of assets | 150,160,822 |
| 3. Actual rate of return: $(1) \div (2)$ | 8.70% |
| 4. Assumed rate of return | 8.00% |
| 5. Expected return: (2) x (4) | \$12,012,866 |
| 6. Actuarial gain/(loss): (1) – (5) | <u>\$1,055,242</u> |
| | |

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial basis compared to the market value investment return for the last ten years, including five-year and nine-year averages. Based upon the revised asset allocation adopted by the Board, we have increased the assumed rate of return to 8.25%.

CHART 11
Investment Return – Actuarial Value vs. Market Value: 1998 - 2006

| _ | Actuarial Value Inves | Investment Return Mark | | arket Value Investment Return | |
|---------------------------|--------------------------|------------------------|--------------|-------------------------------|--|
| Year Ended December 31 | Amount | Percent | Amount | Percent | |
| 1998 | \$8,824,763 | 10.17% | \$12,105,516 | 13.42% | |
| 1999 | 15,014,560 | 15.66 | 18,314,999 | 17.37 | |
| 2000 | 8,888,572 | 8.02 | -223,340 | -0.19 | |
| 2001 | 4,961,589 | 4.07 | -6,755,563 | -5.54 | |
| 2002 | -7,846,007 | -6.12 | -16,290,031 | -13.98 | |
| 2003 | 8,000,736 | 6.60 | 21,306,913 | 21.08 | |
| 2004 | 9,449,558 | 7.30 | 12,588,183 | 10.26 | |
| 2005 | 9,999,595 | 7.18 | 9,085,093 | 6.70 | |
| 2006 | <u>13,068,108</u> | 8.70 | 21,839,833 | 15.00 | |
| Total | \$70,361,474 | | \$71,971,605 | | |
| | Five-year average return | 4.89% | | 7.81% | |
| | Nine-year average return | 6.49% | | 6.81% | |

Note: Each year's yield is weighted by the average asset value in that year.

Subsection B described the actuarial asset valuation method that gradually takes into account fluctuations in the market value rate of return. The effect of this is to stabilize the actuarial rate of return, which contributes to leveling pension plan costs.

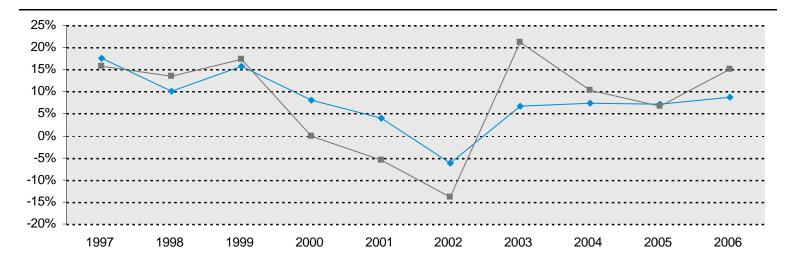
Administrative Expenses

Administrative expenses for the year ended December 31, 2006 totaled \$566,216 compared to the assumption of \$650,000, payable at the beginning of the year. This resulted in a gain of \$102,141 for the year. We have maintained the assumption of \$650,000 for the current year.

This chart illustrates how this leveling effect has actually worked over the years 1997 - 2006.

CHART 12

Market and Actuarial Rates of Return for Years Ended December 31, 1997 - 2006



Other Experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- > the extent of turnover among the participants,
- > retirement experience (earlier or later than expected),
- > mortality (more or fewer deaths than expected),
- > the number of disability retirements, and
- > salary increases different than assumed.

The net loss from this other experience for the year ended December 31, 2006 amounted to \$797,578 which is 0.3% of the actuarial accrued liability. A brief summary of the demographic gain/(loss) experience of the Hampshire County Retirement System for the year ended December 31, 2006 is shown in the chart below.

This valuation reflects the following:

- ➤ An increase in the investment assumption from 8.0% to 8.25%, and
- > Extensive data changes as noted in Section 1 of this report.

The assumption change and data revisions resulted in a net decrease in the unfunded liability of \$12,165,310 and a decrease in the employer normal cost of \$422,436.

The chart shows elements of the experience gain/(loss) for the most recent year.

CHART 13

Experience Due to Changes in Demographics for Year Ended December 31, 2006

| 1. Liabilities higher than expected for retired members and beneficiaries | -\$1,170,908 |
|---|-----------------|
| 2. Salary increases less than expected for continuing actives | 886,711 |
| 3. Miscellaneous loss | <u>-513,381</u> |
| 4. Total | -\$797,578 |

D. RECOMMENDED CONTRIBUTION

The amount of annual contribution required to fund the Plan is comprised of an employer normal cost payment and a payment on the unfunded actuarial accrued liability.

The preliminary recommended contribution of \$12,064,214 is based on a 1-year amortization of the 1992 ERI liability, a 21-year level amortization of the 2002 and 2003 ERI liabilities and an 18-year increasing (3.50% per year) amortization of the remaining unfunded liability.

Because the fiscal 2008 appropriation has already been budgeted at \$11,998,834, the results of this valuation will first be reflected in the fiscal 2009 appropriation of \$12,385,744. This represents a 3.2% increase over the fiscal 2008 appropriation.

Exhibit G in Section 3 shows the recommended contributions through fiscal 2028 based on this funding schedule. The current funding schedule fully amortizes all non-ERI unfunded liability by June 30, 2025 and the 2002 and 2003 ERI liability by June 30, 2028.

The chart compares this valuation's recommended contribution with the prior valuation.

CHART 14
Recommended Contribution

| | Year Beginning January 1 | | | |
|--|--------------------------|---------------|---------------------|---------------|
| | 2007 2006 | | 6 | |
| | | % of | | % of |
| | Amount | Payroll | Amount | Payroll |
| 1. Total normal cost | \$9,003,740 | 13.22% | \$9,100,634 | 13.74% |
| 2. Administrative expenses | 650,000 | 0.95% | 650,000 | 0.98% |
| 3. Expected employee contributions | <u>-5,888,080</u> | <u>-8.65%</u> | <u>-5,688,392</u> | <u>-8.59%</u> |
| 4. Employer normal cost: $(1) + (2) + (3)$ | \$3,765,660 | 5.53% | \$4,062,242 | 6.13% |
| 5. Actuarial accrued liability | 257,885,435 | | 254,808,289 | |
| 6. Actuarial value of assets | 163,497,369 | | 149,892,383 | |
| 7. Unfunded actuarial accrued liability: (5) - (6) | \$94,388,066 | | \$104,915,906 | |
| 8. Employer normal cost projected to July 1, 2007 and 2006, adjusted for timing | 3,926,506 | 5.64% | 4,233,310 | 6.25% |
| 9. Projected unfunded actuarial accrued liability | 98,204,421 | | 109,031,808 | |
| 10. Payment on projected unfunded actuarial accrued liability, adjusted for timing | 8,137,708 | 11.69% | 7,273,006 | 10.74% |
| 11. Preliminary recommended contribution: (8) + (10), adjusted for timing | 12,064,214 | 17.33% | 11,506,316 | 17.00% |
| 12. Budgeted appropriation | <u>\$11,998,834</u> | <u>17.23%</u> | <u>\$11,412,670</u> | <u>16.86%</u> |
| 13. Projected payroll | \$69,623,558 | | \$67,693,142 | |

Note: Recommended contributions are assumed to be paid on July 1 and December 31.

Reconciliation of Recommended Contribution

The chart below details the changes in the recommended contribution from the prior valuation to the current year's valuation.

The chart reconciles the contribution from the prior valuation to the amount determined in this valuation.

CHART 15 Reconciliation of Recommended Contribution from July 1, 2006 to July 1, 2007

| Preliminary Recommended Contribution as of July 1, 2006 | \$11,506,316 |
|---|------------------|
| Expected increase | \$492,518 |
| Effect of changes to amortization schedule | 1,214,293 |
| Effect of change in investment return assumption and data revisions | -1,295,525 |
| Effect of investment gain | -72,555 |
| Effect of net other changes | <u>-219,167</u> |
| Total change | <u>\$557,898</u> |
| Preliminary Recommended Contribution as of July 1, 2007 | \$12,064,214 |

E. INFORMATION REQUIRED BY THE GASB

Governmental Accounting Standards Board (GASB) reporting information provides standardized information for comparative purposes of governmental pension plans. This information allows a reader of the financial statements to compare the funding status of one governmental plan to another on relatively equal terms.

Critical information to the GASB is the historical comparison of GASB required contribution to the actual contributions. This comparison demonstrates whether a plan is being funded within the range of GASB reporting requirements. Chart 16 below presents a graphical representation of this information for the Plan.

The other critical piece of information regarding the Plan's financial status is the funded ratio. This ratio compares the

actuarial value of assets to the actuarial accrued liabilities of the plan as calculated under the GASB. High ratios indicate a well-funded plan with assets sufficient to pay most benefits. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other factors.

Although GASB requires that the actuarial value of assets be used to determine the funded ratio, Chart 17 shows the funded ratio calculated using both the actuarial value of assets (63.40%) and the market value of assets (65.04%).

The details regarding the calculations of these values and other GASB numbers may be found in Section 4, Exhibits II, III, and IV.

These graphs show key GASB factors.

CHART 16
Required Versus Actual Contributions

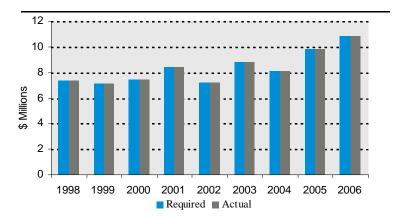
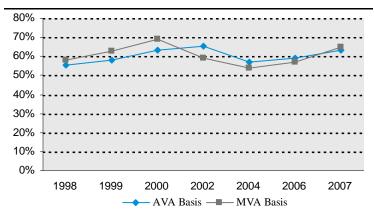


CHART 17 Funded Ratio



SECTION 3: Supplemental Information for the Hampshire County Retirement System

EXHIBIT A

Table of Plan Coverage

| | Year Ended | December 31 | |
|--|--------------|--------------|---------------------------|
| Category | 2006 | 2005 | Change From Prior Year |
| Active participants in valuation: | | | |
| Number | 2,413 | 2,733 | -11.7% |
| Average age | 46.4 | 45.0 | N/A |
| Average service | 9.8 | 9.9 | N/A |
| Total payroll | \$64,759,080 | \$62,944,586 | 2.9% |
| Average payroll | 26,838 | 23,031 | 16.5% |
| Member contributions | 49,104,787 | 46,660,423 | 5.2% |
| Number with unknown age information | 7 | 0 | N/A |
| Inactive participants with a vested right to a deferred or immediate benefit | 42 | 81 | -48.1% |
| Participants entitled to a return of their contributions | 1,017 | 612 | 66.2% |
| Retired participants: | | | |
| Number in pay status | 796 | 788 | 1.0% |
| Average age | 73.1 | 72.8 | N/A |
| Average monthly benefit | \$1,160 | \$1,120 | 3.6% |
| Disabled participants: | | | |
| Number in pay status | 66 | 65 | 1.5% |
| Average age | 62.2 | 62.1 | N/A |
| Average monthly benefit | \$2,064 | \$1,914 | 7.8% |
| Beneficiaries in pay status | 134 | 136 | -1.5% |

Note: In year ended December 31, 2006, 286 call firefighters, reserve police officers and part-time EMTs who worked in 2006 are included with inactive participants entitled to a return of their employee contributions.

SECTION 3: Supplemental Information for the Hampshire County Retirement System

EXHIBIT B
Participants in Active Service as of December 31, 2006
By Age, Years of Service, and Average Payroll

| | | | | | Years o | f Service | | | | |
|-----------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|---------------|
| Age | Total | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & over |
| Under 25 | 87 | 87 | | | | | | | | |
| | \$18,376 | \$18,376 | | | | | | | | |
| 25 - 29 | 151 | 127 | 24 | | | | | | | |
| | \$21,895 | \$19,260 | \$35,839 | | | | | | | |
| 30 - 34 | 183 | 107 | 56 | 19 | 1 | | | | | |
| | \$27,899 | \$21,172 | \$38,954 | \$33,432 | \$23,508 | | | | | |
| 35 - 39 | 259 | 122 | 70 | 45 | 21 | 1 | | | | |
| | \$26,932 | \$17,623 | \$30,019 | \$41,555 | \$38,336 | \$48,963 | | | | |
| 40 - 44 | 300 | 128 | 74 | 36 | 35 | 23 | 4 | | | |
| | \$27,805 | \$19,869 | \$25,108 | \$32,267 | \$42,967 | \$46,525 | \$51,196 | | | |
| 45 - 49 | 405 | 129 | 111 | 74 | 33 | 36 | 22 | | | |
| | \$26,972 | \$19,255 | \$24,521 | \$26,848 | \$34,822 | \$47,586 | \$39,487 | | | |
| 50 - 54 | 462 | 108 | 93 | 80 | 78 | 41 | 38 | 21 | 3 | |
| | \$29,143 | \$17,910 | \$24,224 | \$29,335 | \$30,512 | \$39,893 | \$43,282 | \$49,754 | \$75,082 | |
| 55 - 59 | 336 | 80 | 67 | 51 | 50 | 29 | 28 | 14 | 17 | |
| | \$27,575 | \$23,294 | \$22,653 | \$23,312 | \$26,080 | \$33,152 | \$36,344 | \$50,632 | \$41,362 | |
| 60 - 64 | 163 | 27 | 35 | 23 | 18 | 23 | 18 | 11 | 7 | 1 |
| | \$27,026 | \$13,237 | \$18,977 | \$32,252 | \$27,999 | \$34,134 | \$29,347 | \$39,832 | \$49,985 | \$36,465 |
| 65 - 69 | 41 | 5 | 14 | 5 | 5 | 7 | 4 | 1 | | |
| | \$24,792 | \$9,844 | \$19,660 | \$16,890 | \$42,668 | \$34,739 | \$22,886 | \$59,510 | | |
| 70 & over | 19 | 2 | 3 | 3 | 3 | 6 | | | 2 | |
| | \$16,751 | \$6,654 | \$24,027 | \$18,761 | \$15,047 | \$7,389 | | | \$43,562 | |
| Unknown | 7 | 7 | | | | | | | | |
| | 5,564 | 5,564 | | | | | | | | |
| Total | 2,413 \$26,838 | 929 \$19,100 | 547 \$26,517 | 336 \$29,976 | 244 \$32,492 | 166 \$39,167 | 114 \$38,207 | 47 \$47,901 | 29 \$47,083 | 1 \$36,465 |

SECTION 3: Supplemental Information for the Hampshire County Retirement System

EXHIBIT C
Summary Statement of Income and Expenses

| | Year Ended Dece | ember 31, 2006 | Year Ended Dece | ember 31, 2005 |
|---------------------------------------|-------------------|----------------|-----------------|----------------|
| Contribution income: | | | | |
| Employer contributions | \$10,792,026 | | \$9,823,364 | |
| Employee contributions | 5,474,913 | | 5,290,511 | |
| Other contributions | 8,716 | | 11,078 | |
| Less administrative expenses* | <u>-566,216</u> | | <u></u> | |
| Net contribution income | | \$15,709,439 | | \$15,124,953 |
| Net investment income | | 13,068,108 | | 9,999,595 |
| Total income available for benefits | | \$28,777,547 | | \$25,124,548 |
| Less benefit payments: | | | | |
| Pensions and annuities | -\$13,412,993 | | -\$12,491,943 | |
| Net (8)c reimbursements | -671,187 | | -559,091 | |
| Refunds to members | <u>-1,088,381</u> | | <u>-720,448</u> | |
| Net benefit payments | | -\$15,172,561 | | -\$13,771,482 |
| Change in reserve for future benefits | | \$13,604,986 | | \$11,353,066 |

^{*} Administrative expenses for year ended December 31, 2005 are included with net investment income.

SECTION 3: Supplemental Information for the Hampshire County Retirement System

EXHIBIT D

Development of the Fund Through December 31, 2006

| Year Ended December 31 | Employer Contributions | Employee Contributions* | Other Contributions | Net Investment Return** | Administrative Expenses | Benefit Payments | Actuarial Value of Assets at End of Year |
|---------------------------|---------------------------|----------------------------|------------------------|-------------------------------|----------------------------|---------------------|---|
| 1998 | \$7,326,155 | \$3,998,243 | \$25,618 | \$9,108,125 | \$283,362 | \$8,591,918 | \$96,934,508 |
| 1999 | 7,091,911 | -680,868 | 17,054 | 15,504,929 | 490,368 | 8,532,747 | 109,844,419 |
| 2000 | 7,380,860 | 3,820,204 | 18,382 | 9,248,220 | 359,656 | 9,194,732 | 120,757,705 |
| 2001 | 8,389,385 | 4,290,044 | 66,971 | 5,386,329 | 424,740 | 10,458,332 | 128,007,362 |
| 2002 | 7,153,492 | 4,639,030 | 32,404 | -7,390,495 | 455,512 | 11,499,938 | 120,486,343 |
| 2003 | 8,798,943 | 4,945,171 | 53,229 | 8,435,913 | 435,176 | 12,408,636 | 129,875,787 |
| 2004 | 8,068,233 | 4,906,395 | 87,736 | 9,996,853 | 547,295 | 13,848,392 | 138,539,317 |
| 2005 | 9,823,364 | 5,290,511 | 11,078 | 10,479,493 | 479,898 | 13,771,482 | 149,892,383 |
| 2006 | 10,792,026 | 5,474,913 | 8,716 | 13,068,108 | 566,216 | 15,172,561 | 163,497,369 |

^{*} Employee contributions for 1999 reflect the transfer of county employees to the State Retirement System following the elimination of the Hampshire County Government.

^{**} Net of investment fees.

SECTION 3: Supplemental Information for the Hampshire County Retirement System

EXHIBIT E

Development of Unfunded Actuarial Accrued Liability and (Gain)/Loss for Year Ended December 31, 2006

| Unfunded actuarial accrued liability at beginning of year | | \$104,915,906 |
|---|-----------------|---------------------|
| 2. Normal cost at beginning of year | | 9,750,634 |
| 3. Total contributions | | -16,275,655 |
| 4. Interest | | |
| (a) For whole year on $(1) + (2)$ | \$9,173,323 | |
| (b) For half year on (3) | <u>-651,027</u> | |
| (c) Total interest | | 8,522,296 |
| 5. Expected unfunded actuarial accrued liability | | \$106,913,181 |
| 6. Changes due to: | | |
| (a) Investment gain | -\$1,055,242 | |
| (b) Assumption changes and data revisions | -12,165,310 | |
| (c) Miscellaneous loss | 695,437 | |
| (d) Total changes | | -12,525,115 |
| 7. Unfunded actuarial accrued liability at end of year | | <u>\$94,388,066</u> |

SECTION 3: Supplemental Information for the Hampshire County Retirement System

EXHIBIT F

Table of Amortization Bases as of July 1, 2007

| Туре | Annual Payment | Years Remaining | Outstanding Balance |
|------------------------------|-----------------------|-----------------|----------------------------|
| 1992 ERI liability | \$120,655 | 1.00 | \$118,287 |
| 2002 ERI liability | 290,459 | 21.00 | 3,029,309 |
| 2003 ERI liability | 307,397 | 21.00 | 3,205,962 |
| Remaining unfunded liability | <u>7,419,197</u> | 18.00 | <u>91,850,863</u> |
| Total | \$8,137,708 | | \$98,204,421 |

Notes: Level dollar amortization for ERI liabilities and increasing (3.50%) amortization for remaining unfunded liability. Payments include adjustment for timing.

Does not reflect adjustment to set fiscal 2008 appropriation to budgeted amount.

SECTION 3: Supplemental Information for the Hampshire County Retirement System

EXHIBIT G
Funding Schedule

| (1) Fiscal Year Ended June 30 | (2) Employer Normal Cost | (3) Amortization of 1992 ERI Liability | (4) Amortization of 2002 ERI Liability | (5) Amortization of 2003 ERI Liability | (6) Amortization of Remaining Unfunded Liability | (7) Total Plan Cost: (2) + (3) + (4) + (5) + (6) | (8) Total Unfunded Accrued Liability at Beginning of Fiscal Year |
|--|--------------------------------|---|---|---|--|--|--|
| 2008 | \$3,926,506 | \$120,655 | \$290,459 | 307,397 | \$7,353,818 | \$11,998,834 | \$98,204,421 |
| 2009 | 4,103,199 | - | 290,459 | 307,397 | 7,684,689 | 12,385,744 | 97,739,464 |
| 2010 | 4,287,843 | - | 290,459 | 307,397 | 7,953,653 | 12,839,352 | 97,013,054 |
| 2011 | 4,480,796 | - | 290,459 | 307,397 | 8,232,031 | 13,310,682 | 95,941,275 |
| 2012 | 4,682,432 | - | 290,459 | 307,397 | 8,520,152 | 13,800,440 | 94,485,644 |
| 2013 | 4,893,141 | - | 290,459 | 307,397 | 8,818,357 | 14,309,354 | 92,604,152 |
| 2014 | 5,113,332 | - | 290,459 | 307,397 | 9,127,000 | 14,838,187 | 90,250,964 |
| 2015 | 5,343,432 | - | 290,459 | 307,397 | 9,446,445 | 15,387,732 | 87,376,089 |
| 2016 | 5,583,886 | - | 290,459 | 307,397 | 9,777,070 | 15,958,812 | 83,925,023 |
| 2017 | 5,835,161 | - | 290,459 | 307,397 | 10,119,268 | 16,552,284 | 79,838,365 |
| 2018 | 6,097,743 | - | 290,459 | 307,397 | 10,473,442 | 17,169,041 | 75,051,398 |
| 2019 | 6,372,141 | - | 290,459 | 307,397 | 10,840,013 | 17,810,009 | 69,493,636 |
| 2020 | 6,658,887 | - | 290,459 | 307,397 | 11,219,413 | 18,476,156 | 63,088,333 |
| 2021 | 6,958,537 | - | 290,459 | 307,397 | 11,612,093 | 19,168,485 | 55,751,951 |
| 2022 | 7,271,671 | - | 290,459 | 307,397 | 12,018,516 | 19,888,042 | 47,393,583 |
| 2023 | 7,598,896 | - | 290,459 | 307,397 | 12,439,164 | 20,635,915 | 37,914,330 |
| 2024 | 7,940,846 | - | 290,459 | 307,397 | 12,874,535 | 21,413,236 | 27,206,623 |
| 2025 | 8,298,184 | - | 290,459 | 307,397 | 13,325,143 | 22,221,183 | 15,153,489 |
| 2026 | 8,671,602 | - | 290,459 | 307,397 | - | 9,269,458 | 1,627,760 |
| 2027 | 9,061,824 | - | 290,459 | 307,397 | - | 9,659,680 | 1,127,572 |
| 2028 | 9,469,606 | - | 290,459 | 307,397 | - | 10,067,462 | 586,118 |
| 2029 | 9,895,738 | - | - | - | - | 9,895,738 | - |
| 2030 | 10,341,046 | - | - | - | - | 10,341,046 | - |

Notes: Item (2) increases at 4.50% per year.

Item (6) increases at 3.50% per year.

Recommended contributions are assumed to be paid on July 1, and December 31.

Fiscal 2007 appropriated budgeted amount determined with prior valuation.

SECTION 3: Supplemental Information for the Hampshire County Retirement System

EXHIBIT H
Unit Results

| | Number of active | Average | | Projected average salary in | Number of inactive vested | Number of inactive nonvested | Number of | Projected payroll for | Estimated employer |
|-----------------------------------|------------------|---------|---------|-----------------------------------|---------------------------|------------------------------|-----------|-----------------------|--------------------|
| Unit | employees | age | service | 2007 | employees | employees | retirees | fiscal 2008 | cost |
| Amherst | 481 | 44.2 | 10.6 | \$37,513 | 12 | 168 | 182 | \$18,445,500 | \$3,226,042 |
| Amherst Housing Authority | 11 | 51.1 | 12.17 | 34,573 | 0 | 2 | 3 | 388,800 | 78,681 |
| Amherst Pelham Regional School | 207 | 43.4 | 8.3 | 21,603 | 5 | 99 | 66 | 4,571,300 | 761,401 |
| Belchertown | 284 | 45.9 | 8.8 | 27,478 | 4 | 75 | 61 | 7,977,500 | 1,438,750 |
| Belchertown Housing Authority | 2 | 51.0 | 13.8 | 34,169 | 0 | 1 | 1 | 69,900 | 9,033 |
| Belchertown Water District | 7 | 43.9 | 12.4 | 18,954 | 0 | 2 | 1 | 135,600 | 21,454 |
| Chesterfield | 17 | 51.1 | 8.5 | 14,400 | 0 | 5 | 6 | 250,200 | 42,908 |
| Chesterfield/Goshen Regional | 14 | 44.3 | 7.5 | 21,272 | 0 | 6 | 2 | 304,400 | 48,553 |
| Cummington | 8 | 48.9 | 6.2 | 19,434 | 0 | 10 | 8 | 158,900 | 28,229 |
| Foothills Health District | 1 | 56.0 | 1.9 | 39,901 | 0 | 0 | 0 | 40,800 | 6,775 |
| Gateway Regional School | 103 | 48.7 | 9.0 | 22,596 | 1 | 19 | 38 | 2,379,200 | 369,232 |
| Goshen | 11 | 53.0 | 8.3 | 16,971 | 0 | 15 | 5 | 190,800 | 29,358 |
| Granby | 106 | 45.4 | 7.5 | 26,613 | 3 | 86 | 65 | 2,883,700 | 539,807 |
| Granby Housing Authority | 2 | 55.0 | 6.7 | 27,357 | 0 | 3 | 1 | 55,900 | 12,001 |
| Hadley | 115 | 45.5 | 9.4 | 24,920 | 1 | 52 | 37 | 2,929,600 | 508,694 |
| Hadley Housing Authority | 3 | 51.0 | 8.7 | 19,342 | 0 | 0 | 0 | 59,300 | 10,162 |
| Hampshire County | 109 | 50.8 | 13.0 | 33,549 | 0 | 31 | 100 | 3,738,200 | 562,317 |
| Hampshire Regional Housing | 1 | 61.0 | 23.6 | 19,092 | 0 | 0 | 0 | 19,500 | 3,387 |
| Hampshire Regional School | 48 | 45.3 | 6.9 | 27,076 | 1 | 7 | 30 | 1,328,500 | 266,835 |

SECTION 3: Supplemental Information for the Hampshire County Retirement System

| Unit | Number of active employees | Average age | Average years of service | Projected average salary in 2007 | Number of inactive vested employees | Number of inactive nonvested employees | Number of retirees | Projected payroll for fiscal 2008 | Estimated employer cost |
|-----------------------------------|----------------------------|----------------|--------------------------|---|-------------------------------------|--|--------------------|-----------------------------------|-------------------------|
| Hatfield | 59 | 49.0 | 8.3 | \$23,032 | 1 | 66 | 20 | \$1,389,100 | \$225,830 |
| Hatfield Housing | | | | | | | | | |
| Authority | 2 | 61.0 | 9.3 | 16,623 | 0 | 0 | 2 | 34,000 | 5,646 |
| Huntington | 28 | 49.9 | 9.6 | 13,114 | 1 | 20 | 6 | 375,400 | 71,293 |
| Middlefield | 3 | 39.3 | 3.6 | 32,277 | 2 | 2 | 0 | 99,000 | 16,937 |
| Pelham | 51 | 48.5 | 10.2 | 12,151 | 1 | 25 | 8 | 633,500 | 136,355 |
| Plainfield | 5 | 48.4 | 12.3 | 32,136 | 0 | 1 | 10 | 164,300 | 27,100 |
| Quabbin Health District | 5 | 46.8 | 11.1 | 31,325 | 0 | 1 | 1 | 160,100 | 31,192 |
| South Hadley | 315 | 46.2 | 10.4 | 28,688 | 5 | 54 | 167 | 9,238,000 | 1,498,816 |
| South Hadley Fire District #1 | 42 | 46.5 | 15.6 | 33,335 | 0 | 16 | 23 | 1,431,200 | 252,466 |
| South Hadley Fire District #2 | 22 | 48.9 | 14.6 | 21,595 | 0 | 46 | 8 | 485,700 | 77,911 |
| South Hadley Housing Authority | 4 | 57.0 | 14.5 | 42,393 | 0 | 0 | 4 | 173,300 | 28,229 |
| Southampton | 78 | 47.2 | 8.0 | 28,340 | 0 | 33 | 21 | 2,259,700 | 401,181 |
| Ware | 183 | 47.8 | 10.6 | 30,221 | 3 | 90 | 90 | 5,653,500 | 986,867 |
| Ware Housing Authority | 3 | 47.3 | 12.6 | 37,978 | 0 | 0 | 2 | 116,500 | 22,818 |
| Westhampton | 29 | 48.1 | 7.8 | 19,249 | 0 | 9 | 8 | 570,600 | 95,978 |
| Williamsburg | 39 | 52.3 | 9.4 | 18,172 | 1 | 47 | 17 | 724,500 | 108,986 |
| Worthington | 15 | 47.9 | 6.6 | 12,229 | 1 | 26 | 3 | 187,500 | 47,610 |
| Total | 2,413 | | | | 42 | 1,017 | 996 | \$69,623,600 | \$11,998,834 |

SECTION 3: Supplemental Information for the Hampshire County Retirement System

EXHIBIT I

Definitions of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Assumptions or actuarial assumptions:

The estimates on which the cost of the Plan is calculated including:

- (a) <u>Investment return</u> the rate of investment yield that the Plan will earn over the long-term future;
- (b) <u>Mortality rates</u> the death rates of employees and pensioners; life expectancy is based on these rates;
- (c) <u>Retirement rates</u> the rate or probability of retirement at a given age;
- (d) <u>Turnover rates</u> the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Normal cost:

The amount of contributions required to fund the benefit allocated to the current year of service.

Actuarial accrued liability for actives:

The equivalent of the accumulated normal costs allocated to the years before the valuation date.

Actuarial accrued liability for pensioners:

The single sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

Unfunded actuarial accrued liability:

The extent to which the actuarial accrued liability of the Plan exceeds the assets of the Plan. There are many approaches to paying off the unfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.

SECTION 3: Supplemental Information for the Hampshire County Retirement System

Amortization of the unfunded

actuarial accrued liability: Payments made over a period of years equal in value to the Plan's unfunded actuarial

accrued liability.

Investment return: The rate of earnings of the Plan from its investments, including interest, dividends and

capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one

year to the next.

| EX | HIBIT I | | |
|----|--|--------------|------------|
| Su | mmary of Actuarial Valuation Results | | |
| Th | e valuation was made with respect to the following data supplied to us: | | |
| 1. | Retired participants as of the valuation date (including 134 beneficiaries in pay status) | | 99 |
| 2. | Participants active during the year ended December 31, 2006 with total accumulated contributions of \$49,104,787 and projected payroll of \$68,107,991 | | 2,41 |
| 3. | Participants with a right to a return of their employee contributions as of December 31, 2006 | | 1,01 |
| 4. | Inactive participants with a vested right to a deferred or immediate benefit as of December 31, 2006 | | 4 |
| Th | e actuarial factors as of the January 1, 2007 valuation date are as follows: | | |
| 1. | Normal cost | | \$9,003,74 |
| 2. | Administrative expenses | | 650,00 |
| 3. | Expected employee contributions | | -5,888,08 |
| 4. | Employer normal cost: $(1) + (2) + (3)$ | | \$3,765,66 |
| 5. | Actuarial accrued liability | | 257,885,43 |
| | Retired participants and beneficiaries | 5124,888,189 | |
| | Active participants | 129,504,381 | |
| | Inactive participants | 3,492,865 | |
| 6. | Actuarial value of assets (\$167,718,336 at market value) | | 163,497,36 |
| 7. | Unfunded actuarial accrued liability: $(5) - (6)$ | | 94,388,06 |
| Th | e determination of the recommended contribution is as follows: | | |
| 1. | Projected employer normal cost, adjusted for timing | | \$3,926,50 |
| 2. | Projected unfunded actuarial accrued liability | | 98,204,42 |
| 3. | Payment on projected unfunded actuarial accrued liability, adjusted for timing | | 8,137,70 |
| 4. | Preliminary recommended contribution: $(1) + (3)$ | | 12,064,21 |
| 5. | Budgeted appropriation based on 2006 actuarial valuation | | 11,998,83 |
| 6. | Projected payroll | | 69,623,55 |

Note: Recommended contributions are assumed to be paid on July 1 and December 31.

EXHIBIT II

Supplementary Information Required by the GASB – Schedule of Employer Contributions

| Plan Year Ended December 31 | Annual Required Contributions | Actual Contributions | Percentage Contributed |
|--------------------------------|----------------------------------|-------------------------|---------------------------|
| 1998 | \$7,351,773 | \$7,351,773 | 100.0% |
| 1999 | 7,108,965 | 7,108,965 | 100.0% |
| 2000 | 7,399,242 | 7,399,242 | 100.0% |
| 2001 | 8,455,272 | 8,455,272 | 100.0% |
| 2002 | 7,185,896 | 7,185,896 | 100.0% |
| 2003 | 8,852,172 | 8,852,172 | 100.0% |
| 2004 | 8,155,969 | 8,155,969 | 100.0% |
| 2005 | 9,834,442 | 9,834,442 | 100.0% |
| 2006 | 10,800,742 | 10,800,742 | 100.0% |

EXHIBIT III

Supplementary Information Required by the GASB – Schedule of Funding Progress

| Actuarial Valuation Date | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) (b) | Unfunded/ (Overfunded) AAL (UAAL) (b) - (a) | Funded Ratio (a) / (b) | Covered Payroll (c) | UAAL as a Percentage of Covered Payroll [(b) - (a)] / (c) |
|--------------------------------|--|--|---|------------------------------|---------------------------|---|
| 01/01/1992 | \$38,466,700 | \$90,387,700 | \$51,941,000 | 42.56% | \$36,220,000 | 143.40% |
| 01/01/1994 | 50,597,700 | 104,565,400 | 53,967,700 | 48.39% | 38,686,000 | 139.50% |
| 01/01/1996 | \$62,822,500 | \$120,964,500 | \$58,142,000 | 51.93% | \$46,895,300 | 123.98% |
| 01/01/1998 | 85,351,600 | 154,164,200 | 68,812,600 | 55.36% | 52,420,600 | 131.27% |
| 01/01/1999 | 96,706,300 | 166,058,900 | 69,352,600 | 58.24% | 54,799,500 | 126.56% |
| 01/01/2000 | 109,844,400 | 173,148,000 | 63,303,600 | 63.44% | 52,500,000 | 120.58% |
| 01/01/2002 | 128,007,362 | 196,323,603 | 68,316,241 | 65.20% | 58,453,919 | 116.87% |
| 01/01/2004 | 129,875,787 | 228,468,240 | 98,592,453 | 56.85% | 61,370,678 | 160.65% |
| 01/01/2006 | 149,892,383 | 254,808,289 | 104,915,906 | 58.83% | 66,219,596 | 158.44% |
| 01/01/2007 | 163,497,369 | 257,885,435 | 94,388,066 | 63.40% | 68,107,991 | 138.59% |

| EXHIBIT | · IV | |
|----------------|------|--|
|----------------|------|--|

Supplementary Information Required by the GASB

| Valuation date | January 1, 2007 | | |
|--|---|--|--|
| Actuarial cost method | Entry Age Normal Cost Method | | |
| Amortization method | Level dollar amortization for ERI liability and increasing amortization (3.50% per year) for remaining unfunded liability | | |
| Remaining amortization period 1 year remaining as of July 1, 2007 for 1992 ERI, 21 years remaining from July 2002 and 2003 ERI, and 18 years remaining for remaining unfunded liability | | | |
| Asset valuation method | 5-year smoothing of investment returns greater (less) than expected | | |
| Actuarial assumptions: | | | |
| Investment rate of return | 8.25% (Previously, 8.00%) | | |
| Projected salary increases | Varies by length of service with ultimate rates of 4.75% and 5.25% for Groups 1 and 4, respectively | | |
| Cost of living adjustments | 3.00% of first \$12,000 of retirement income | | |
| Plan membership: | | | |
| Retired participants and beneficiaries receiving benefits | 996 | | |
| Inactive participants entitled to a return of their employee contributions | 1,017 | | |
| Inactive participants with a vested right to a deferred or immediate benefit | 42 | | |
| Active participants | <u>2,413</u> | | |
| Total | 4,468 | | |

EXHIBIT V

Actuarial Assumptions and Actuarial Cost Method

Mortality Rates:

Healthy: RP-2000 Combined Healthy Mortality Table

Disabled: RP-2000 Combined Healthy Mortality Table set forward 7 years

| Termination Rates before Retirement: | Groups 1 and 2 - Rate (%) | | | | |
|---|---------------------------|-----------|--------|------------|------------|
| | | Mortality | | Disability | Withdrawal |
| | Age | Male | Female | | |
| | 20 | 0.03 | 0.02 | 0.03 | 12.00 |
| | 25 | 0.04 | 0.02 | 0.04 | 8.78 |
| | 30 | 0.04 | 0.03 | 0.06 | 5.55 |
| | 35 | 0.08 | 0.05 | 0.07 | 3.93 |
| | 40 | 0.11 | 0.07 | 0.11 | 2.31 |
| | 45 | 0.15 | 0.11 | 0.18 | 1.89 |
| | 50 | 0.21 | 0.17 | 0.30 | 1.46 |
| | 55 | 0.36 | 0.27 | | |
| | 60 | 0.67 | 0.51 | | |

Notes: 55% of the disability rates shown represent accidental disability.

20% of the accidental disabilities will die from the same cause as the disability.

55% of the death rates shown represent accidental death

SECTION 4: Reporting Information for the Hampshire County Retirement System

| | | Group 4 | - Rate (%) | |
|-----|-----------|---------|------------|------------|
| | Mortality | | Disability | Withdrawal |
| Age | Male | Female | | |
| 20 | 0.03 | 0.02 | 0.12 | 2.10 |
| 25 | 0.04 | 0.02 | 0.17 | 1.88 |
| 30 | 0.04 | 0.03 | 0.22 | 1.65 |
| 35 | 0.08 | 0.05 | 0.29 | 1.11 |
| 40 | 0.11 | 0.07 | 0.44 | 0.56 |
| 45 | 0.15 | 0.11 | 0.72 | 0.28 |
| 50 | 0.21 | 0.17 | 1.21 | |
| 55 | 0.36 | 0.27 | | |
| 60 | 0.67 | 0.51 | | |

Notes:

90% of the disability rates shown represent accidental disability.

60% of the accidental disabilities will die from the same cause as the disability.

90% of the death rates shown represent accidental death.

Retirement Rates:

Rate per year (%)

| Age | Groups 1 and 2 | Group 4 | |
|---------|----------------|---------|--|
| 50 - 54 | | 2.0 | |
| 55 | 5.0 | 10.0 | |
| 56 – 59 | 3.0 | 10.0 | |
| 60 - 61 | 5.0 | 30.0 | |
| 62 - 64 | 15.0 | 30.0 | |
| 65 | 25.0 | 100.0 | |
| 66 – 69 | 15.0 | | |
| 70 - 71 | 50.0 | | |
| 72 | 100.0 | | |
| | | | |

SECTION 4: Reporting Information for the Hampshire County Retirement System

Unknown Data for Participants: Same as those exhibited by participants with similar known characteristics. If not

specified, participants are assumed to be male.

Age of Spouse: Females 3 years younger than their spouses.

Percent Married: 75%

Net Investment Return: 8.25% (Previously, 8.0%)

Interest on Employee Contributions: 3.5%

| Salary Increases: | Years of Service | Group 1 | Group 4 |
|-------------------|------------------|-------------------------|------------|
| | 0 | 7.00% | 8.00% |
| | 1 | 6.50% | 7.50% |
| | 2 | 6.50% | 7.00% |
| | 3 | 6.00% | 6.50% |
| | 4 | 6.00% | 6.00% |
| | 5 | 5.50% | 6.00% |
| | 6 | 5.50% | 5.50% |
| | 7 | 5.00% | 5.50% |
| | 8 | 5.00% | 5.25% |
| | 9 and later | 4.75% | 5.25% |
| | Includes allowan | ce for inflation of 4½% | % . |

Administrative Expenses: \$650,000 for calendar year 2007

2006 Salary: Salary reported in the data

Total Service: Service as reported in the original data or as revised by the System (Previously

calculated from Adjusted Date of Hire reported in the data).

Actuarial Value of Assets:

A preliminary actuarial value is first determined by taking the actuarial value of assets at the beginning of the year and adding assumed investment earnings (at the assumed actuarial rate of return) and the net new money during the year (contributions less benefit payments). Twenty percent of the difference between the market value of assets and the preliminary actuarial value is added to the preliminary actuarial value. In order that the actuarial value not differ too significantly from the market value of assets, the final actuarial value of assets must be within 20% of the market value of assets.

Actuarial Cost Method:

Entry Age Normal Actuarial Cost Method. Entry Age is attained age minus Service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by salary.

EXHIBIT VI

Summary of Plan Provisions

This exhibit summarizes the major provisions of Chapter 32 of the Laws of Massachusetts.

Plan Year:

January 1 – December 31

Retirement Benefits

Employees covered by the Contributory Retirement Law are classified into one of four groups depending on job classification. Group 1 comprises most positions in state and local government. It is the general category of public employees. Group 4 comprises mainly police and firefighters. Group 2 is for other specified hazardous occupations. (Officers and inspectors of the State Police are classified as Group 3.)

The annual amount of the retirement allowance is based on the member's final threeyear average salary multiplied by the number of years and full months of creditable service at the time of retirement and multiplied by a percentage according to the following table based on the age of the member at retirement:

Age Last Birthday at Date of Retirement

| Percent | Group 1 | Group 2 | Group 4 |
|---------|------------|------------|------------|
| 2.5 | 65 or over | 60 or over | 55 or over |
| 2.4 | 64 | 59 | 54 |
| 2.3 | 63 | 58 | 53 |
| 2.2 | 62 | 57 | 52 |
| 2.1 | 61 | 56 | 51 |
| 2.0 | 60 | 55 | 50 |
| 1.9 | 59 | | 49 |
| 1.8 | 58 | | 48 |
| 1.7 | 57 | | 47 |
| 1.6 | 56 | | 46 |
| 1.5 | 55 | | 45 |

A member's final three-year average salary is defined as the greater of the highest consecutive three-year average annual rate of regular compensation and the average

annual rate of regular compensation received during the last three years of creditable service prior to retirement. The \$30,000 cap on salary used in a benefit determination for any employee hired after January 1, 1979 has been removed.

The maximum annual amount of the retirement allowance is 80 percent of the member's final three-year average salary. Any member who is a veteran also receives an additional yearly retirement allowance of \$15 per year of creditable service, not exceeding \$300. The veteran allowance is paid in addition to the 80 percent maximum.

Employee Contributions

| Date of Hire | Contribution Rate | | |
|-------------------------------------|-------------------|--|--|
| Prior to January 1, 1975 | 5% | | |
| January 1, 1975 – December 31, 1983 | 7% | | |
| January 1, 1984 – June 30, 1996 | 8% | | |
| July 1, 1996 onward | 9% | | |

In addition, employees hired after December 31, 1978 contribute an additional 2 percent of salary in excess of \$30,000.

Employees hired after 1983 who leave with less than five years of credited service receive no interest on their contributions, and employees who leave with five but less than ten years receive one-half the rate of regular interest otherwise payable.

Retirement Benefits (Superannuation)

Members of Group 1, 2 or 4 may retire upon the attainment of age 55. For retirement at ages below 55, twenty years of creditable service is required.

Members who terminate before age 55 with ten or more years of creditable service are eligible for a retirement allowance upon the attainment of age 55 (provided they have not withdrawn their accumulated deductions from the Annuity Savings Fund of the System).

Ordinary Disability Benefits

A member who is unable to perform his/her job due to a non-occupational disability will receive a retirement allowance if he/she has ten or more years of creditable service and has not reached age 55. The annual amount of such allowance shall be determined as if the member retired for superannuation at age 55, based on the amount of creditable service at the date of disability. For veterans, there is a minimum benefit of 50 percent of the member's most recent year's pay plus an annuity based on his own contributions.

Accidental Disability Benefit

For a job-connected disability, the benefit is 72 percent of the member's most recent annual pay plus an annuity based on his/her own contributions, plus additional amounts for surviving children. Benefits are capped at 75 percent of annual rate of regular compensation for employees who become members after January 1, 1988.

Death Benefits

In general, the beneficiary of an employee who dies in active service will receive a refund of the employee's own contributions. Alternatively, if the employee were eligible to retire on the date of his/her death, a spouse's benefit will be paid the full amount the employee would have received under Option C (previously, two-thirds of the amount). The surviving spouse of a member who dies with two or more years of credited service has the option of a refund of the employee's contributions or a monthly benefit regardless of eligibility to retire, if they were married for at least one year. There is also a minimum widow's pension of \$500 per month, and there are additional amounts for surviving children.

If an employee's death is job-connected, the spouse will receive 72 percent of the member's most recent annual pay, in addition to a refund of the member's accumulated deductions, plus additional amounts for surviving children. However, in accordance with Section 100 of Chapter 32, the surviving spouse of a police officer, firefighter or corrections officer is killed in the line of duty will be eligible to receive an annual benefit equal to the maximum salary held be the member at the time of death.

"Heart And Lung Law" And Cancer Presumption

Any case of hypertension or heart disease resulting in total or partial disability or death to a uniformed fireman or permanent member of a police department is presumed to have been suffered in the line of duty, unless the contrary is shown by competent evidence. Any case of disease of the lungs or respiratory tract resulting in total disability or death to a uniformed fireman is presumed to have been suffered in the line of duty, unless the contrary is shown by competent evidence. There is an additional presumption for uniformed firemen that certain types of cancer are job-related if onset occurs while actively employed or within five years of retirement.

Options

Members may elect to receive a full retirement allowance payable for life under Option A. Under Option B a member may elect to receive a lower monthly allowance in exchange for a guarantee that at his death any contributions not expended for annuity payments will be refunded to the beneficiary. Option C allows the member to take a lesser retirement allowance in exchange for providing a survivor with two-thirds of the lesser amount. Option C pensioners will have benefits converted from a reduced to a full retirement if the beneficiary predeceases the retiree.

Post-Retirement Benefits

The Board has adopted the provisions of Section 51 Chapter 127 of the Acts of 1999, which provide that the Retirement Board may approve an annual COLA in excess of the Consumer Price Index but not to exceed a 3% COLA on the first \$12,000 of a retirement allowance. Cost-of-living increases granted prior to July 1, 1998 are reimbursed by the Commonwealth and not reflected in this report.